

Polypropylene Glass-filled Datasheet



Overview

Polypropylene (PP) is a versatile thermoplastic polymer widely used across various industries. SLS 3D printed PP glass-filled parts exhibit excellent mechanical strength, making it an ideal choice for creating waterproof components.

As-printed Part's Tolerance: $\pm 300\mu\text{m}$ or 0.3%

Maximum Printing Size: 350*350*400mm

Properties

Thermal Properties	Metric	Method
Heat Deformation (0.46 MPa)	179°C	ASTM D648M
Heat Deformation (1.82 MPa)	129°C	ASTM D648M
Dense Properties	Metric	Method
Density	1.26 g/cm ³	DIN 53466
Mechanical Properties	Metric	Method
Tensile Strength	41MPa	ASTM D638M
Tensile Modulus	2000MPa	ASTM D638M
Elongation at Break	9%	ASTM D638M
Flexural Properties	Metric	Method
Flexural Modulus	2100MPa	ASTM D790
Flexural Strength	70MPa	ASTM D790
Impact Properties	Metric	Method
Notched Impact Strength	48 J/m	ASTM D256
Unnotched Impact Strength	240 J/m	ASTM D256

Pros

This material offers outstanding chemical resistance, design flexibility, and high durability, without the need for support structures. It is particularly recommended for lightweight, chemical-resistant, and durable parts, including those used in automotive, medical, and consumer goods applications.

Cons

Parts printed with PP may have a rough surface finish and slight porosity.

Applications

- Lightweight and Durable Components
- Custom Prosthetics
- Brackets
- Surgical Tools
- Sports Equipment and Toys
- Medical Device Housings
- Snap-Fit Assemblies
- Ducting Systems
- Storage Bins and Organizers